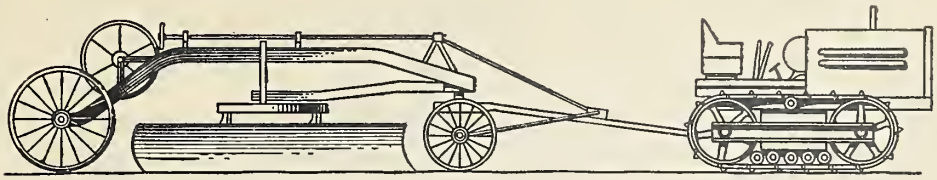
CONSTRUCTION



HINTS

UNITED STATES DEPARTMENT OF AGRICULTURE, FOREST SERVICE

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Mr. G. H. Hieronymus of CCC, Washington office, has described the "curve cutter" designed by H. P. Dowler, Engineer of CCC, Camp S-119, Pennsylvania. The cutter is illustrated and described on pages 2 and 3. This device should prove of value in various Forest Service activities.

The method of framing at door or window openings to prevent plaster cracks, as described on page 4, was prepared by W. Ellis Groben of the Washington office.

Contributions to Construction Hints are often received in blue print form. These are not acceptable because of the difficulty in making satisfactory photographs. Please send black-line prints, photostat positives, or originals which will be returned if requested.

E. S. MASSIE, Jr.,
Editor.

CURVE CUTTER

Designed by
H.P.Dowler Eng'r. Camp S-119

Fig. 1.

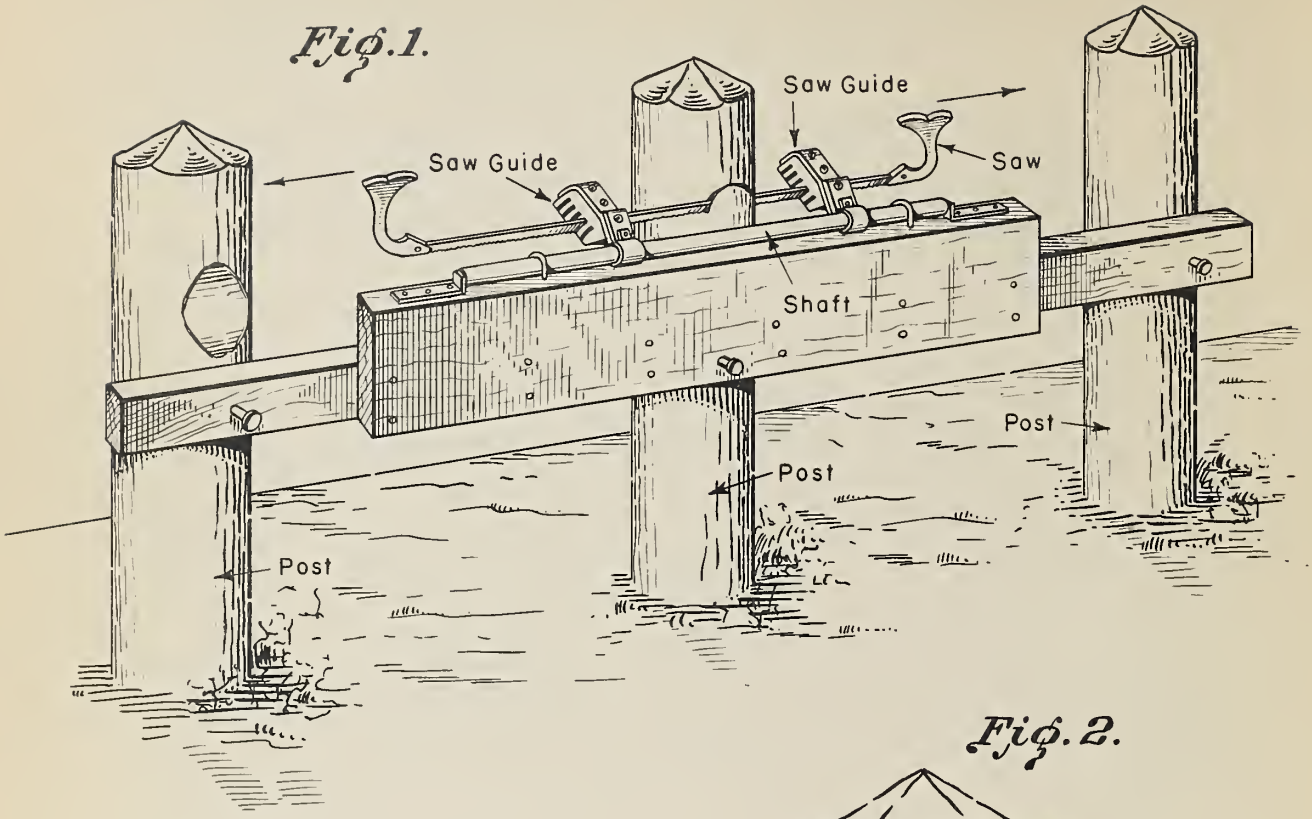


Fig. 2.

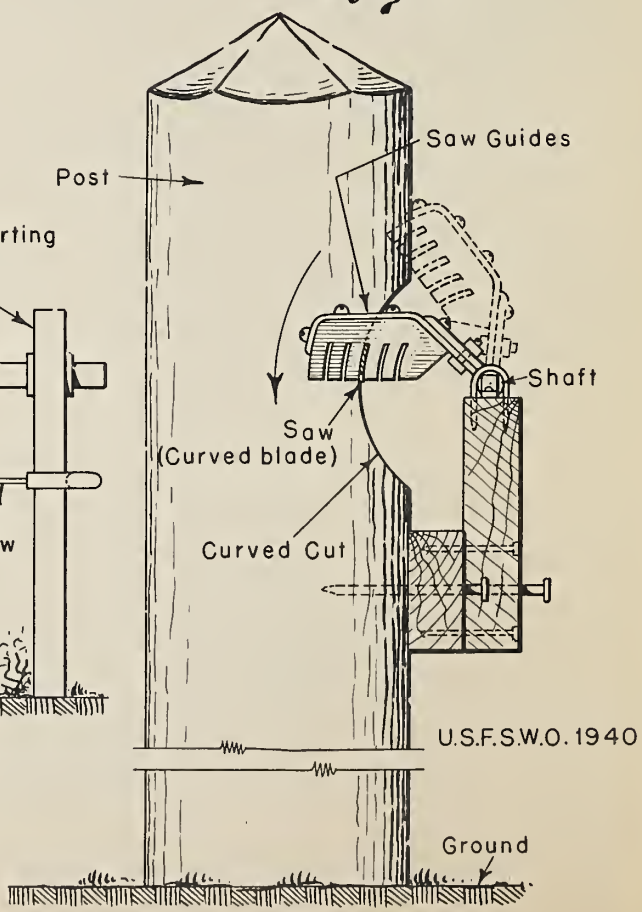
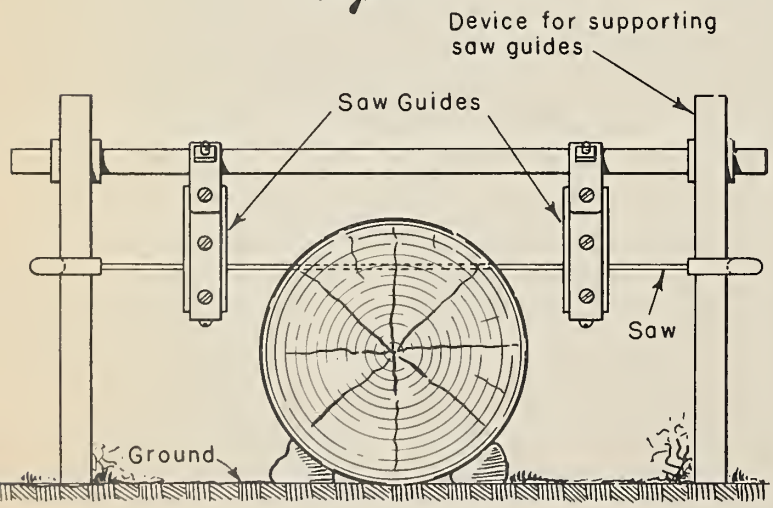


Fig. 3.



CURVE CUTTER

At long last, a device for cutting curved notches in logs has been invented. Previously many special tools have been made to facilitate this job, but few have been of value. The curve cutter that actually works was made by H. P. Dowler, Engineer of CCC Camp S-119, Pennsylvania.

The machine was made primarily to notch out posts for truck trail guard rails and parking area barriers. However, it can be used as effectively for notching logs for log buildings.

Figure 1 shows the curve cutter as it is used in notching posts for guard rails. It is spiked lightly to three posts, so as to provide proper stability and alignment, and must be moved from post to post. Figure 2 gives an end view of the machine attached to a post, and the details of construction. Figure 3 shows how the curve cutter may be mounted on supports for notching logs or posts on the ground. If the supports for the saw guides are stationary, each log or post to be notched must be moved and placed under the machine, but if it is mounted on movable supports, such as horses or tripods, the machine could be moved and placed over each log. The supports could be designed so that the height of the rig could be adjusted to the size of the log. The machine might also be used for cutting curves in the end of upright logs for holding horizontal members.

The saw is a 30 or 36 inch bucksaw blade that has been cold rolled so as to give it a little curve. This makes it follow easily a curved kerf. The teeth set to the inner side of the curve are filed slightly shorter than those set to the outside. The saw runs through two guides, one on each side of the log or post. The guides revolve on a 3/4" iron shaft or pipe. They are made of tough wood, reinforced with strap-iron which also forms the hinge. Five slots are provided in each guide so that the radius of the curve to be cut may be varied from 3" minimum to 5" maximum. The guide may be made entirely of metal, since wood guides have a tendency to wear and break. The rod or pipe is 30" long, is mounted with heavy staples on a 2" x 8" x 42". End play is checked by two iron angles at each end of the rod.

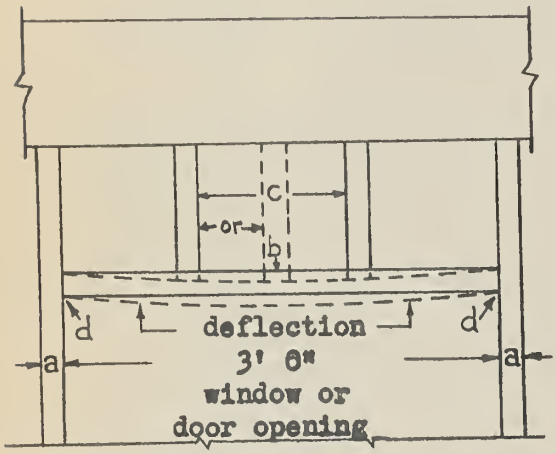
For use on posts that are already set, the machine is nailed to a 2" x 4" of any desired length.

This practical device should greatly increase efficiency in notching for guard rails, log piers and abutments, shelters, and especially for buildings. Camps that have used this machine report not only reduction of man-day costs but marked improvement in the quality of the structures.

FRAMING OPENINGS
(Light Construction)

Poor Practice Versus Good Practice

If openings in frame partitions are trussed, as shown in B, the plaster cracks, so often seen at door openings, may be practically eliminated.



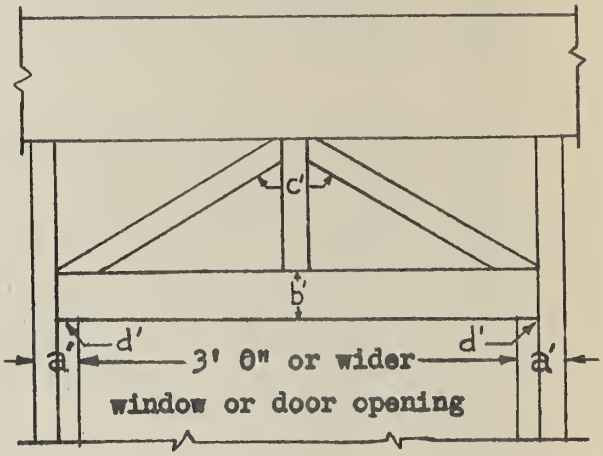
Customary framing

a. Single studs.

b. The flat header over opening has a tendency to sag which, after being cased-up, causes future trouble in closing door.

c. Vertical pieces, either single or double, do not transfer any possible load directly to the jamb framing each side of the opening.

d. Weak connection, relying upon nailing only.



Better practice

a'. Double studs.

b'. Double header, two 2 x 4's sometimes laid flat, preferably, should be placed vertically because, in that position, they are twice as strong and very much stiffer.

c'. Trussed, to transfer any load directly to the double jamb studs and, thereby, eliminate any possibility of subsequent sagging of the header.

d'. Well seated, substantial connection.

Window openings, in either frame buildings or masonry-veneered frame buildings, should be similarly trussed for the same reasons. False initial economy does not save enough material and labor to compensate for future repairs of plaster and refitting doors and sash.

W. Ellis Groben

W. ELLIS GROBEN
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